

IN THE CLAIMS

These claims replace the previously filed claims.

1. (Previously Presented) A method to operate a digital signal receiver, comprising:  
detecting occurrence of a symbol degrading event for a received signal, wherein the  
symbol degrading event occurs after transmission and before reception of the  
received signal;  
  
inserting zero symbols into a received symbol stream to replace symbols degraded by  
the signal degrading event prior to de-interleaving the received signal; and  
  
error correction decoding the received symbol stream having the inserted zero  
symbols.
2. (Original) A method as in claim 1, where error correction decoding comprises  
operating a Reed-Solomon decoder.
3. (Original) A method as in claim 1, where error correction decoding comprises  
operating a BCH decoder.
4. (Original) A method as in claim 1, where error correction decoding comprises  
operating a Turbo decoder.
5. (Original) A method as in claim 1, where inserting occurs in conjunction with  
operating a BPSK bit metric calculator.

6. (Original) A method as in claim 1, where inserting occurs after a Viterbi decoder.
7. (Original) A method as in claim 1, where error correction decoding comprises first de-interleaving the received symbol stream having the inserted zero symbols.
8. (Previously Presented) A method as in claim 1, where detecting comprises:  
estimating a signal to noise ratio (SNR) of a block of L contiguous received symbols,  
where L is an integer greater than or equal to one;  
  
comparing the estimated SNR to a threshold SNR value; and  
  
replacing L symbols with L zero symbols when the estimated SNR is less than the  
threshold SNR.
9. (Original) A method as in claim 1, where detecting comprises examining the output of at least one Automatic Gain Control (AGC) circuit.
10. (Original) A method as in claim 9, where detecting comprises comparing the output of a slow AGC to a first threshold, comparing the output of a fast AGC to a second threshold, and replacing symbols with zero symbols when either the first or the second threshold is exceeded.
11. (Original) A method as in claim 9, where detecting comprises comparing a difference between the output of a slow AGC and the output of a fast AGC to a threshold, and replacing symbols with zero symbols when the difference exceeds the threshold.

12. (Original) A method as in claim 9, where detecting comprises comparing a difference between the output of a fast AGC and an average of the output of the fast AGC to a threshold, and replacing symbols with zero symbols when the difference exceeds the threshold.

13. (Original) A method as in claim 1, where detecting uses information received from a transmitter that is indicative of a time when a deep fade occurs.

14. (Currently Amended) A digital signal receiver, comprising:  
circuitry ~~for detecting~~ configured to detect the occurrence of a symbol degrading event for a received signal; and ~~for inserting~~ configured to insert zero symbols into a received symbol stream to replace symbols by the symbol degrading event prior to de-interleaving the received signal, wherein the symbol degrading event occurs after transmission and before reception of the received signal; and  
a decoder ~~for decoding~~ configured to decode the received symbol stream having the inserted zero symbols.

15. (Original) A digital signal receiver as in claim 14, where the decoder comprises a Reed-Solomon decoder.

16. (Original) A digital signal receiver as in claim 14, where the decoder comprises a BCH decoder.

17. (Original) A digital signal receiver as in claim 14, where the decoder comprises a Turbo decoder.

18. (Original) A digital signal receiver as in claim 14, where said circuit inserts the zero symbols in conjunction with operation of a BPSK bit metric calculator.

19. (Original) A digital signal receiver as in claim 14, where said circuit inserts the zero symbols after a Viterbi decoder.

20. (Original) A digital signal receiver as in claim 14, further comprising a de-interleaver for de-interleaving the received symbol stream having the inserted zero symbols.

21. (Previously Presented) A digital signal receiver as in claim 14, where said circuit comprises:

means for estimating a signal to noise ratio (SNR) of a block of  $L$  contiguous received symbols, where  $L$  is an integer greater than or equal to one;

means for comparing the estimated SNR to a threshold SNR value; and

means for replacing  $L$  symbols with  $L$  zero symbols when the estimated SNR is less than the threshold SNR.

22. (Original) A digital signal receiver as in claim 14, where said circuit comprises means for examining the output of at least one Automatic Gain Control (AGC) circuit.

23. (Original) A digital signal receiver as in claim 22, where said circuit comprises means for comparing the output of a slow AGC to a first threshold, means for comparing the output of a fast AGC to a second threshold, and means for replacing symbols with zero symbols when either the first or the second threshold is exceeded.

24. (Original) A digital signal receiver as in claim 22, where said circuit comprises means for comparing a difference between the output of a slow AGC and the output of a fast AGC to a threshold, and means for replacing symbols with zero symbols when the difference exceeds the threshold.

25. (Original) A digital signal receiver as in claim 22, where said circuit comprises means for comparing a difference between the output of a fast AGC and an average of the output of the fast AGC to a threshold, and means for replacing symbols with zero symbols when the difference exceeds the threshold.

26. (Original) A digital signal receiver as in claim 14, where said circuit uses information received from a transmitter that is indicative of a time when a deep fade occurs.

27. (Previously Presented) A method to receive a signal that passes through a channel that is periodically obstructed by a rotating propeller blade, comprising:  
detecting occurrence of a fading condition due to obstruction by the propeller blade;  
  
in response to detecting the occurrence of the fading condition, inserting zero symbols into a received symbol stream at the receiver to replace symbols degraded by the fading condition caused by the obstructing propeller blade;  
  
de-interleaving the received symbol stream having the inserted zero symbols; and

decoding the received symbol stream having the inserted zero symbols.

28. (Original) A method as in claim 27, where decoding comprises operating a concatenated forward error correction (FEC) decoder.
29. (Original) A method as in claim 27, where decoding comprises operating one of a Reed-Solomon decoder, a BCH decoder, or a Turbo decoder.
30. (Previously Presented) A method to operate a satellite to receive a signal that passes through a channel that is periodically obstructed by a rotating propeller blade, comprising:
- detecting, on the satellite, occurrence of a fading condition due to obstruction by the propeller blade;
  - in response to detecting the occurrence of the fading condition,
  - inserting zero symbols into a received symbol stream at the satellite to replace symbols degraded by the fading condition caused by the obstructing propeller blade;
  - de-interleaving the received symbol stream having the inserted zero symbols; and
  - error correction decoding the received symbol stream having the inserted zero symbols.
31. (Previously Presented) A satellite, comprising a receiver for receiving a signal that passes through a channel that is periodically obstructed, the receiver comprising circuitry for detecting occurrence of a fading condition due to an obstruction and, in response to

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detecting the occurrence of the fading condition, for inserting zero symbols into a received symbol stream to replace symbols corrupted by the fading condition caused by the periodic obstruction; and an error correction decoder for decoding the received symbol stream having the inserted zero symbols.